

July 10, 1964

LINEAR PHASOLVER MEASURING ENGINE

STAT

Everything is waiting on the driver master patterns being made by [redacted]. The Phasolver electronics are complete and have been tested for accuracy and drift. They were packaged in a small console, operated with the old patterns and were found to work satisfactorily.

STAT

[redacted] made a trip East in June and visited [redacted]. He talked to [redacted] there. At the time of [redacted] visit, [redacted] had made five driver masters and was working on the sixth. They were not yet successful. [redacted] first makes a single-cycle sine-wave master at about four times size by step positioning and exposing a narrow slit. They have no trouble with this operation and have made several of the small plates. The single-cycle master is then reproduced on the final master at a 4:1 reduction by manual step and repeat indexing.

STAT

STAT

STAT

They tried an automatic step and repeat but it did not work out. There are 200 steps per pattern and five patterns on the 10-in. long plate, thus 1000 manual operations are required. They are having trouble doing this without error. However, [redacted] received a call from [redacted] on Thursday, July 9, saying he had successfully made two complete masters. He is airmailing one to [redacted] and sending one to [redacted] for their inspection. [redacted] is to prepare the working driver from [redacted] driver master.

STAT

STAT

STAT

[redacted] that they had made one coupler. The coupler is a series of conducting bars plated on a 26-in. long glass plate. Measurements indicated the accuracy was just barely good enough. On checking back, [redacted] found the temperature variations were wide, so they stripped the plate and will do it over. [redacted] expects

STAT

Linear Phasolver Measuring Engine

-2-

to complete the coupler plate next week. [] received the cost overrun funds so there is no interruption to the work.

Based on receiving the driver master from [] next week and barring other mishaps, [] thinks they will be ready for the feasibility demonstration in October. I think it would be advantageous for [] (and, if possible, [] to see the feasibility demonstration and participate in the discussion and evaluation. To be effective, though, they must do their homework. They must familiarize themselves with the present project and be prepared to discuss specifics of implementation of the results. I recommend that [] and, if possible, [] accompany [] to witness the feasibility demonstration of sub-micron measurement.

STAT

STAT

STAT

STAT

STAT

